

## IN THE CLAIMS

1           1. (Original) A method for managing a code sequence, comprising:  
2           determining first intermediate correlation values for a first plurality of sample sequences  
3 during a first clock cycle;  
4           determining second intermediate correlation values for the first plurality of sample  
5 sequences during a second clock cycle; and  
6           determining correlation outputs for the first plurality of sample sequences from the first  
7 and second intermediate correlation values.

1           2. (Original) The method of Claim 1, wherein determining the first intermediate  
2 correlation values comprises processing coefficients in a first code sequence group in parallel  
3 with corresponding sample values in corresponding sample sequence groups from the first  
4 plurality of sample sequences.

1           3. (Original) The method of Claim 1, wherein determining the second intermediate  
2 correlation values comprises processing coefficients in a second code sequence group in parallel  
3 with corresponding sample values in corresponding sample sequence groups from the first  
4 plurality of sample sequences.

1           4. (Original) The method of Claim 1, wherein determining correlation outputs for the  
2 first plurality of sample sequences comprises taking a sum of the first and second intermediate  
3 correlation values for each of the first plurality of sample sequences.

1           5. (Original) The method of Claim 1, further comprising:

1           10. (Canceled) The method of claim 6, wherein the first and second group of sample  
2 values in the received sample are contiguous.

1           11. (Original) The method of claim 6, wherein processing the first group of coefficient  
2 in the code sequence with the first group of sample values in the received sample comprises  
3 determining a sum of the products of the first group of coefficients in the code sequence with the  
4 first group of sample values in the received sample.

1           12. (Original) The method of claim 6, wherein processing the second group of  
2 coefficients in the code sequence with the second group of sample values in the received sample  
3 comprises determining a sum of the products of the second group of coefficients in the code  
4 sequence with the second group of sample values in the received sample.

1           13. (Original) The method of claim 6, wherein determining the correlation output from  
2 the first and second intermediate correlation values comprises taking the sum of the first and  
3 second intermediate correlation values.

1           14. (Original) A method for managing a code sequence, comprising:  
2           organizing the code sequence, having a plurality of contiguous coefficients, into a  
3 plurality of contiguous code sequence groups;  
4           selecting a number of sample sequences to process in parallel where each of the sample  
5 sequences has contiguous sample values from a received sample;  
6           organizing contiguous sample values from each of a first set of contiguous sample  
7 sequences to process in parallel into a first set of contiguous sample sequence groups; and

2           determining first intermediate correlation values for a second plurality of sample values  
3   during a third clock;  
4           determining second intermediate correlation values for the second plurality of sample  
5   values during a fourth clock; and  
6           determining correlation output values for the second plurality of sample value from the  
7   first and second intermediate correlation values.

1           6. (Currently Amended) A method for managing a code sequence, comprising:  
2           processing a first group of coefficients in the code sequence with a first group of  
3   contiguous sample values in a received sample to determine a first intermediate correlation value  
4   during a first clock cycle;  
5           processing a second group of coefficients in the code sequence with a second group of  
6   contiguous sample values in the received sample to determine a second intermediate correlation  
7   value during a second clock cycle; and  
8           determining a correlation output from the first and second intermediate correlation  
9   values.

1           7. (Currently Amended) The method of claim 6, wherein the code sequence comprises  
2   L coefficients and the first and second group of coefficients in the code sequence each comprises  
3   n coefficients, where L and n may be any value.

1           8. (Original) The method of claim 7, wherein the first and second group of sample  
2   values in the received sample each comprises n sample values.

1           9. (Original) The method of claim 6, wherein the first and second group of coefficients  
2   in the code sequence are contiguous.

8           processing coefficients in each of the code sequence groups in parallel with  
9           corresponding sample values in corresponding sample sequence groups from the first set of  
10          sample sequences, where each of code sequence groups is processed during a different clock  
11          cycle.

1           15. (Original) The method of Claim 14, further comprising:  
2           organizing contiguous sample values from each of a second set of sample sequences to  
3          process in parallel into a second set of contiguous sample sequence groups; and  
4           processing coefficients in each of the code sequence groups in parallel with  
5          corresponding sample values in corresponding sample sequence groups from the second set of  
6          sample sequences, where each of the code sequence groups is processed during a different clock  
7          cycle.

1           16. (Original) The method of Claim 14, further comprising:  
2           determining a correlation output for each of the sample sequences; and  
3           determining a synchronization point for the code sequence from the correlation outputs.

1           17. (Original) The method of Claim 16, wherein determining a synchronization output  
2          comprises determining a correlation output having a highest numerical value.

1           18. (Currently Amended) The method of Claim 14, wherein a first sample value in a  
2          first sample sequence includes a first sample value in the received sample and each consecutive  
3          sample sequence includes a next contiguous sample value in the received sample as a first sample  
4          value of the consecutive sample sequence.

1           19. (Original) The method of Claim 14, wherein processing comprises determining a  
2       sum of the products of the coefficients in each of the code sequence groups with each of the  
3       sample values in corresponding sample sequence groups from the first set of sample sequences.

1           20. (Original) The method of Claim 14, wherein the code sequence comprises a plurality  
2       of L contiguous values.

1           21. (Original) The method of Claim 20, wherein the code sequence is organized into a  
2       plurality of n code sequence groups.

1           22. (Original) The method of Claim 21, wherein a number, d, sample sequences are  
2       selected to process in parallel where each of the sample sequences has L contiguous sample  
3       values from the sample.

1           23. (Original) The method of Claim 22, wherein the first set of sample sequences is  
2       organized into a plurality of contiguous sample sequence groups having n values each.

1           24. (Currently Amended) The method of Claim 14, wherein organizing the code  
2       sequence comprises organizing the code sequence~~is organized~~ into L/n groups.

1           25. (Currently Amended) The method of Claim 14, wherein ~~the processing~~ coefficients  
2       comprises processing coefficients for~~is completed after~~ L/n clocks.

1           26. (Currently Amended) A method for managing a code sequence, comprising:  
2       organizing the code sequence, having L contiguous coefficients, into a number of  
3       contiguous code sequence groups having n coefficients each;

4           selecting a number of sample sequences,  $d$ , to process in parallel where each of the  
5   sample sequences has  $L$  contiguous sample values from a received sample, where a first sample  
6   value in a first sample sequence is a first sample value in the received sample and each  
7   consecutive sample sequence includes a next contiguous sample value in the received sample as  
8   a first sample value in the consecutive sample sequence;  
9           organizing sample values from each of a first set of  $d$  sample sequences into a first set of  
10   sample sequence groups having  $n$  values each; and  
11          processing coefficients in each of the code sequence groups in parallel with  
12   corresponding sample values in corresponding sample sequence groups from the first set of  $d$   
13   sample sequences, where each of the code sequence groups is processed during a different clock  
14   cycle, where  $L$ ,  $d$ , and  $n$  may be any value.

1           27. (Currently Amended) The method of Claim 26, further comprising:  
2           organizing sample values from each of a second set of  $d$  sample sequences into a second  
3   set of contiguous sample sequence groups having  $n$  values each; and processing values in each of  
4   the code sequence groups in parallel with corresponding sample values in corresponding sample  
5   sequence groups from the second set of  $d$  sample sequences, where each of the code sequence  
6   groups is processed during a different clock cycle.

1           28. (Original) The method of Claim 26, further comprising:  
2           determining a correlation output for each of the sample sequences; and  
3           determining a synchronization point for the code sequence from the correlation outputs.

1           29. (Original) The method of Claim 28, wherein determining a synchronization output  
2   comprises determining a correlation output having a highest numerical value.

1           30. (Original) The method of Claim 26, wherein the code sequence is organized into  $L/n$   
2 groups.

1           31. (Original) The method of Claim 26, wherein processing comprises determining a  
2 sum of the products of the coefficients in each of the code sequence groups with each of the  
3 sample values in corresponding sample sequence groups from the first set of  $d$  sample sequences.

1           32. (Original) The method of Claim 26, wherein the processing is completed after  $L/n$   
2 clocks.

1           33. (Original) A correlator unit, comprising:  
2 a plurality of code sequence registers that store coefficients from a code sequence group,  
3 the plurality of code sequence registers storing coefficients from one code sequence group of a  
4 plurality of code sequence groups at a time;  
5 a plurality of sample registers that store sample values from a plurality of sample  
6 sequences that are processed in parallel; and  
7 a processing unit that processes coefficients in each of the plurality of code sequence  
8 groups in the plurality of code sequence registers in parallel with corresponding sample values in  
9 corresponding sample sequence groups from a first plurality of sample sequences in the plurality  
10 of sample registers, where each of the code sequence groups is processed during a different clock  
11 cycle.

1           34. (Original) The correlator unit of Claim 33, further comprising a plurality of  
2 accumulation sub-units each accumulation sub-unit receiving results from the processing unit for  
3 a designated sample sequence, each accumulation unit generating a correlation value for the  
4 designated sample sequence after each of the code sequence groups are processed.

1           35. (Currently Amended) The correlator unit of Claim 33, wherein the processing unit  
2 processes the coefficients in each ~~of the plurality~~ of the plurality of code sequence groups in the  
3 plurality of code sequence registers in parallel with corresponding sample values in  
4 corresponding sample sequence groups from a second plurality of sample sequences in the  
5 plurality of sample registers, where each of the code sequence groups is processed during a  
6 different clock cycle.

1           36. (Original) The correlator unit of Claim 34, further comprising correlation output  
2 processor that determines a synchronization point for the code sequence from the correlation  
3 outputs.

1           37. (Original) The correlator unit of Claim 36, wherein the correlation output processor  
2 determines a synchronization point from a correlation output having a highest numerical value.

1           38. (Original) The correlator unit of Claim 33, wherein the processing unit determines a  
2 sum of products of the coefficients in each of the code sequence groups with corresponding  
3 sample values in corresponding

1           39. (Currently Amended) A correlator unit, comprising:  
2 a plurality of  $n$  code sequence registers that store  $n$  coefficients from a code sequence  
3 group, the plurality of  $n$  code sequence registers storing coefficients from one code sequence  
4 group of a plurality of code sequence groups at a time;  
5 a plurality of  $n+d-1$  sample registers that store sample values from a plurality of  $d$  sample  
6 sequences that are processed in parallel; and



7 a processing unit that processes coefficients in each of the plurality of code sequence  
8 groups in the plurality of  $n$  code sequence registers in parallel with corresponding sample values  
9 in corresponding sample sequence groups from a first plurality of  $d$  sample sequences in the  
10 plurality of  $n+d-1$  sample registers, where each of the code sequence groups is processed during  
11 a different clock cycle, wherein  $n$  and  $d$  may be any value.

1 40. (Original) The correlator unit of Claim 39, further comprising an accumulation sub-  
2 unit, corresponding to each of the  $d$  sample sequences that are processed in parallel, that receives  
3 results from the processing unit for a designated sample sequence and that determines a  
4 correlation output for the designated sample sequence after each of the code sequence groups are  
5 processed.

1 41. (Original) The correlator unit of Claim 39, wherein the processing unit processes the  
2 coefficients in each of the plurality code sequence groups in the plurality of  $n$  code sequence  
3 registers in parallel with corresponding sample values in corresponding sample sequence groups  
4 from a second plurality of  $d$  sample sequences in the plurality of  $n+d-1$  sample registers, where  
5 each of the code sequence groups is processed during a different clock cycle.

1 42. (Original) The correlator unit of Claim 40, further comprising correlation output  
2 processor that determines a synchronization point for the code sequence from the correlation  
3 outputs.

1 43. (Original) The correlator unit of Claim 42, wherein the correlation output processor  
2 determines a synchronization point from a correlation output having a highest numerical value.

1           44. (Original) The correlator unit of Claim 39, wherein the processing unit determines a  
2       sum of products of the coefficients in each of the code sequence groups with each of the sample  
3       values in corresponding sample sequence groups from the first set of d correlation sequences.

1           45. (Original) The correlator unit of Claim 39, wherein the processing is completed after  
2       L/n clocks.

1           46. (Currently Amended) A correlator unit, comprising:  
2       means for storing coefficients from a code sequence group, the means for storing  
3       coefficients ~~storing coefficients~~ from one code sequence group of a plurality of code sequence  
4       groups at a time;  
5       means for storing sample values from a plurality of sample sequences that are processed  
6       in parallel; and  
7       means for processing coefficients in each of the plurality of code sequence groups in the  
8       means for storing coefficients in parallel with corresponding sample values in corresponding  
9       sample sequence groups from a first plurality of contiguous sample sequences in the means for  
10      storing sample values, where each of the code sequence groups is processed during a different  
11      clock cycle.